IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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TITLE: METHOD AND APPARATUS FOR DETECTING MASTITIS

Amendment D: CLAIM AMENDMENTS

Claims 1 - 20 (canceled by earlier amendments).

Claims 21 - 29 (canceled herein).

30. (new) A method of testing milk from a mammal for a presence of an infection in the mammal, the method comprising:

forming a reaction chamber having an interior volume;

increasing said interior volume of said reaction chamber so as to draw a liquid sample of the milk from a milk line of an automated milking system into said interior volume of said reaction chamber;

drawing a reagent into said interior volume of said reaction chamber, said reagent having a light-amplifying compound therein;

reacting said light-amplified compound with a substance produced by cells of the mammal in response to the infection prior to the liquid sample being introduced into said reaction chamber;

activating a light detector to a measure a peak of emitted light from a reaction between the light-amplifying compound and he substance produced by the cells, the step of activating the light detector being immediately after the steps of drawing the liquid sample of the

mild and drawing the reagent.

31. (new) The method of Claim 30, the substance produced by the cells of the mammal in response to the infection being produced by phagocytic leukocytes.

32. (new) The method of Claim 31, the substance produced by the cells of the mammal in response to the infection being produced when phagocytic leukocytes phagocytose bacteria.

33. (new) The method of Claim 30, said light-amplifying compound reacting with reactive oxygen so as to emit light.

34. (new) The method of Claim 30, the step of activating comprising:

measuring an intensity of emitted light for a maximum of five minutes.

35. (new) The method of Claim 30, said reaction chamber being a tubular member having a piston positioned in sealed relation with an inner wall of said tubular member, said tubular member being fluid-tight and light-tight, the step of increasing said interior volume comprising:

moving said piston upwardly in said tubular member.

36. (new) The method of Claim 32, said tubular member having a first inlet port and a second inlet port, the method further comprising:

connecting the first inlet port to the milk line of the automated milking system; and

connecting the second inlet port to a supply of said reagent.

37. (new) The method of Claim 36, further comprising:

connecting electrically-actuated operating valves respectively to said first and second inlet ports; and

controlling said operating valves to regulate a proportion of said reagent and the milk drawn into said reaction chamber.